Comment in response to Dept. of Commerce Notice and Request for Comments regarding Innovation Measurement

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The following comment responds to request item no. 3, "Identification of firm-specific data items that could enable comparisons and aggregation," and item no. 4, "Identification of specific 'holes' in the current data collection system that limit our ability to measure innovation"

I would suggest that a useful indicator of innovation would be the percentage of sales accounted for by new products, which are new in the sense of being "new to the world" as opposed to new only to the firm. To be useful, firms should break down that percentage by line of business where a line of business is defined at the four digit ISIC code, or at even a lower level of aggregation.

In addition to measures of innovation, data on innovative activity should also be gathered, also at the line of business level. Such measures should include R&D expenditures at the line of business level, and R&D should be allocated across the categories of basic and applied research and development, and across process and product R&D. Since R&D does not, however, reflect all the innovative activity in firms, data on non-R&D innovative activity should also be gathered. One might ask respondents, for example, to estimate (again by line of business) the percentage of innovative activity represented by their R&D within each of their lines of business to arrive at an approximation of the proportion of innovative activity that occurs outside of formal R&D labs. One might go further and even ask them to estimate the percentage of innovative activity undertaken by different functional units within the firm, including marketing, information systems, and manufacturing. The point is that we know that a considerable amount of innovative activity occurs outside of firms' formal R&D labs, but we have little idea how much.

The government should also gather data on the broad range of factors that economists and others believe to drive innovative activity and performance. The reason is that, to the degree that policymakers judge the innovative performance of some sector, industry or group of firms to be less than desirable, policies to redress such deficiencies will be much better informed to the extent that there is some understanding of the drivers of the observed innovative performance. While there is some consensus among economists and others about some of the drivers of innovative activity and performance, there is still much, however, that is not understood. For that reason, I would recommend a public-private partnership to identify the drivers of innovation, where it would typically be academics who do the more exploratory research in this partnership and the government which would collect data on those determinants for which there is reasonable consensus.

Finally, a good deal of innovation now occurs on a distributed basis, where some firms and other institutions such as universities do the inventing, and other firms commercialize these inventions. Much of this "division of innovative labor" builds on relationships across firms that include licensing, contractual ties, and alliances of various forms. To understand both the determination of innovation, as well as to measure innovative activity and performance, the government needs to measure the extent of these relationships and the value of the technology that is transacted via these relationships.
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Perhaps the easiest of these relationships to measure is the licensing of intellectual property, which firms could report. Firms could also report the extent to which they provide R&D and other innovative services via contractual relationships.